

\* This survey is anonymous and no information will be linked back to you or your e-mail address.

## **THE USE OF ELECTRICAL BRAIN STIMULATION TO MODULATE CORTICAL EXCITABILITY**

1. What area of research do you work in? Please select all that apply.

- ☐ Psychology
- ☐ Cognitive neuroscience
- ☐ Motor control
- ☐ Clinical neurology
- ☐ Psychiatry
- ☐ Rehabilitation
- ☐ Neurophysiology
- ☐ Other, please specify

2. Approximately how long have you used transcranial direct current stimulation tDCS to modulate cortical excitability?

Number of years:  (please enter a numerical value between 0 and 20)

3. Have you used any of the following electrical brain stimulation protocols to alter cortical excitability or induce neuroplastic changes in human subjects? Please select all that apply.

- ☐ Anodal tDCS
- ☐ Cathodal tDCS
- ☐ transcranial random noise stimulation (tRNS)
- ☐ transcranial alternating current stimulation (tACS)
- ☐ pulsed tDCS
- ☐ multichannel (>2 electrodes) tDCS
- ☐ transcranial electrical stimulation (TES) other than above

Please identify additional protocols you have used that are not listed (please separate each protocol name using a comma):

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4. **A)** Approximately how many studies have you published in peer-reviewed journals that have used electrical brain stimulation in human subjects?

Number of publications:  (please enter a numerical value between 0 and 999)

- B)** Approximately how many studies have you done but not published that have used electrical brain stimulation in human subjects?

Number of unpublished studies:  (please enter a numerical value between 0 and 999)

- C)** Please estimate how many studies were not published because of:

(please enter a numerical value between 0 and 999 for each)

- ☐ Technical issues led to unreliable or unusable data
- ☐ Negative results, manuscript never submitted
- ☐ Negative results, manuscript submitted but rejected
- ☐ Positive results, manuscript never submitted
- ☐ Positive results, manuscript submitted but rejected

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5. Whenever you have used electrical brain stimulation in a study, how was the sample size of the study determined? Please estimate how many studies used the following sampling strategies:

☐ Using previously published results to perform a power calculation and estimate sample size requirements.

☐ Based on prior personal experience.

☐ Based on sample size of published studies.

☐ Based on how the data are looking.

☐ Based on data generated by pilot study.

☐ Prior to starting the study, but stopping early if no clear effect is noted.

☐ Prior to starting the study, but allowing for additional subjects to be included if needed.

☐ Prior to starting the study, but stopping early if a clear effect is noted.

☐ No sampling strategy.

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6. *(This question will have sub-questions that depend on the measure(s) selected in question 3. It will ask the main question (6A) for each of the stimulation protocols identified in question 3. For each sub-question, a follow-up question will be asked depending on whether 'yes', 'no' or 'sometimes' was selected. If 'yes' was selected, question 6B will be asked. If 'no' is selected, question 6C will be asked. If 'sometimes' was selected, a text box will be provided and the respondent invited to explain.)*

**A )** When using [*insert chosen fields from question 3, including each 'additional' protocol listed in text box*], have you been able to reproduce a similar effect (e.g., facilitation, inhibition, improved function, decreased function) to what was reported in the original literature?

- ☐ Yes
- ☐ No
- ☐ Sometimes

**B)** If you were able to reproduce an effect, was it similar in magnitude to the original published effect?

- ☐ Yes
- ☐ No, the effect found in our laboratory was smaller
- ☐ No, the effect found in our laboratory was larger

Additional comments:

**C)** If you were not able to reproduce an effect, what steps did you take? Please select all that apply.

- ☐ Collect data from a greater number of subjects.
- ☐ Select a subset of subjects that were 'susceptible' to the investigated effect.
- ☐ Contact the original authors for clarification of the published protocol.
- ☐ Stop using the stimulation protocol.
- ☐ Modify the stimulation protocol.
- ☐ Publish the finding that you were not able to reproduce the published effect.

Additional comments:

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7. Please answer **Yes** or **No** to the following questions:

	Yes	No
Are you aware of <u>other researchers</u> that screen subjects based on whether they are considered 'responders' to a certain form of electrical brain stimulation and do not report it in their publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that drop observations or data points from analyses based on a gut feeling that they were inaccurate?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that decide whether to exclude data after looking at the impact of doing so on the results?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that adjust their statistical analyses in order to optimize the results?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that do not report all of a study's experimental conditions in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that selectively report outcomes in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that selectively report time points in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that fail to report all the different types of electrical brain stimulation used in a study in the resulting publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> that selectively report sub-groups of subjects in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of <u>other researchers</u> who visually inspect their data and reject trials or subjects deemed to be 'outliers' without the support of statistical analysis?	<input type="checkbox"/>	<input type="checkbox"/>
Should these various practices be reported by researchers when they publish their research results?	<input type="checkbox"/>	<input type="checkbox"/>

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8. Please answer **Yes** or **No** to the following questions:

	Yes	No
Have <u>you</u> ever screened subjects based on whether they are considered 'responders' to a certain form of electrical brain stimulation but not reported it in the publication?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever dropped observations or data points from analyses based on a gut feeling that they were inaccurate?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever decided whether to exclude data after looking at the impact of doing so on the results?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever adjusted your statistical analyses in order to optimize the results?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever not reported all of a study's experimental conditions in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever selectively reported outcomes in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever failed to report all the different types of electrical brain stimulation used in a study in the resulting publications?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever selectively reported time points in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever selectively reported sub-groups of subjects in research publications?	<input type="checkbox"/>	<input type="checkbox"/>
Have <u>you</u> ever visually inspected data and rejected trials or subjects deemed to be 'outliers' without the support of statistical analysis?	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for your participation in this survey. If you have any additional comments related to the use of electrical brain stimulation in human subjects, please do so in the box provided below.

Additional comments:
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